the present invention, and FIG. 7 is a view showing an arrangement of the electrodes.

Referring to the PDP of the present invention, each of a plurality of row electrodes **101** (Y1, Y2, Y3, . . .) has a transparent electrode **101**a made of ITO with a plurality of projecting electrode parts alternately projected upward and downward with a predetermined width, i.e., a unit cell width along a row axis and an opaque electrode **101**b made of metal formed below the row axis of the transparent electrode **101**a. The row electrodes are formed at the surface of the upper substrate **10** facing the lower substrate **20** to be arranged in parallel in a column direction with the projecting electrode parts of adjacent row electrodes (Y1 and Y2, Y2 and Y3, Y3 and Y4, . . .) being spaced by a predetermined distance, thus dividing the cells in a column direction. The column electrodes are formed at the surface of the lower substrate **20** facing the upper substrate **10** to be arranged on a column axis of the projecting electrode parts, with being crossed with the row electrodes **101**, thus dividing the cells in a row direction.

In the PDP structured as described above, a row electrode Y2 is concerned in the discharge of two column-direction cell groups adjacent in a column direction by the interaction with two other row electrodes Y1 and Y3 adjacent in a column direction. In such a discharge process, if the driving wave forms shown in FIG. **8** are applied to each electrode **101, 102**, the processing states of the wall charge in the sections (a) to (f) can be shown as the states (a) to (f) of FIG. **9**.

Before the section (a) of FIG. 7, there is no wall charge in the discharge cell. If an address pulse Va and a write pulse Vw are applied to the column electrode X1 and the row electrode Y1 in the section (a) of FIG. 7, there occurs an address discharge between the column and row electrodes X1 and Y1. After such an address discharge, the wall charge is formed in the cell in the section (b).

In this case, most of the wall charge is formed at the row electrode Y1 and the other row electrode Y2 adjacent to the row electrode Y1. That is, (+) wall charge is formed at the row electrode Y1 and (–) wall charge is formed at the row electrode Y2.

If the address pulse Va and the write pulse Vw are applied in the section (c) to the column electrode X2 and the row electrode Y2 in the state in which the wall charge is formed as described above, there occurs an address discharge between two electrodes X2 and Y2. After this address discharge, the wall charge is formed in corresponding cell.

Here, the cell adjacent in a column direction, i.e., the cell where the column electrode X1 is crossed with the row electrodes Y1 and Y2 should not be affected by the scan voltage (Va +Vw) applied to the column electrode X2 and the row electrode Y2.

Hence, the voltage obtained by adding the wall voltage by the wall charge to the scan voltage (Va +Vw) applied to adjacent cell is adjusted to be lower than a discharge start voltage of corresponding cell, and thereby the cell where the column electrode X1 is crossed with the row electrodes Y1 and Y2 sustains the wall charge like the state (c) of FIG. 9.

If the sustain pulse Vs is applied to the row electrodes Y1 and Y2 in the section (d), the voltage obtained by adding the sustain voltage Vs on the both ends of the row electrodes Y1 and Y2 to the wall voltage becomes higher than the discharge start voltage, thus causing the sustain discharge between the row electrodes Y1 and Y2. After the first sustain discharge, the wall charge opposite to that at the section (c) is formed at the section (e).

Next, if the sustain pulse Vs is applied to the row electrodes **Y2** and **Y4** at the section (f), the voltage obtained by adding the sustain voltage Vs on the both ends of the row electrodes Y1 and Y2 to the wall voltage becomes higher than the discharge start voltage, thus causing the sustain discharge between the row electrodes Y1 and Y2 again. Thereafter, there forms a wall charge opposite to that at the section (e).

Comparing the PDP of FIG. **2** with the PDP of FIG. **6**, the row electrodes are arranged at the center of the unit cell in the prior art, while the row electrodes are arranged at both edges of the unit cell, i.e., at the boundary surface of the cell in the present invention.

Hence, from the characteristic in structure, the spaced distance r' between adjacent opaque electrodes of the unit cell according to the present invention is slightly affected as compared with the prior art. That is, as can be seen from FIGS. **2** and **6**, the spaced distance r', i.e., the aperture rate becomes large compared with the spaced distance r of the prior art, and thus the exit amount of the visible ray is also increased, enhancing the brightness characteristic and luminescence efficiency.

Further, in doping the red (R), green (G) and blue (B) phosphor inside of each cell, it is preferred that the phosphor of the same color is not adjacent by making each unit pixel **103** constitute a triangle structure.

In the meanwhile, the PDP structured as described above can be varied to other embodiments within the scope of basic form. For example, FIG. **11** is a view showing the arrangement of the electrodes of PDP according to another preferred embodiment of the present invention.

The PDP of FIG. **11** is differ from that of FIG. **7** in that the form of the opaque electrodes is varied. In FIG. **11**, the opaque electrode **201**b is injected with a predetermined width at the position and direction where the projecting electrode parts are arranged and is projected with a predetermined width from the opposite direction thereof.

Then, the space distance between adjacent opaque electrodes **201**b, i.e., the aperture rate of a unit cell is increased by the injected part, thus enhancing the brightness characteristic and luminescence efficiency. And since the width of the opaque electrode **201** is constantly sustained by the projected part, its own resistance is equally sustained.

As described above, the present invention can enhance the brightness characteristic and luminescence efficiency even though the aperture rate of a unit cell is increased and also can simplify the panel structure by the drastic reduction in the number of required row electrodes.

While this invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not limited to the disclosed embodiment, but, on the contrary, it is intended to cover various modifications within the spirit and scope of the appended claims.

What is claimed is:

1. A plasma display panel in which a plurality of cells are constituted by a plurality of row and column electrodes which are directly crossed with one another between two substrates which are combined in parallel, characterized in that said row electrode has a transparent electrode having a plurality of projecting electrode parts which are alternately projected upward and downward with a predetermined width along a row axis, and an opaque electrode formed at the lower portion of the row axis of said transparent electrode, said column electrode is arranged on a column axis of said projecting electrode part, and said row electrode

is concerned in the discharge of two adjacent column-direction cell groups by the interaction with two other row electrodes adjacent in a column direction.

2. The plasma display panel as claimed in claim **1**, wherein said predetermined width is the width of a unit cell.

3. The plasma display panel as claimed in claim **1**, wherein two row electrodes adjacent in a column direction are formed to be in parallel in a column direction with said projecting electrode parts being distanced by a predetermined distance.

4. The plasma display panel as claimed in claim **1**, wherein said opaque electrode is injected with a predetermined width at the position and direction where said projecting electrode parts are arranged.

5. The plasma display panel as claimed in claim **4**, wherein said opaque electrode is projected with a predetermined width at the position and from an opposite direction where said projecting electrode parts are arranged.

6. A method for driving a plasma display panel in which a plurality of cells are constituted by a plurality of row and column electrodes which are arranged to be directly crossed with one another between two substrates which are combined in parallel, and said row electrode is concerned in the discharge of two adjacent column-direction cell groups by the interaction with two other row electrodes adjacent in a column direction, comprising the steps of:

applying a scan voltage between said column electrode and row electrode corresponding to a discharge cell, thus generating an address discharge between corresponding column and row electrodes;

applying a sustain voltage to said row electrode, thus generating a sustain discharge between said row electrode and other row electrode adjacent to said row electrode; and

applying said sustain voltage to said other row electrode, thus generating said sustain discharge again between said row electrode and said other row electrode.

7. The method as claimed in claim **6**, wherein a discharge start voltage of said discharge cell is higher than the addition of a wall voltage by said address discharge to said scan voltage applied to the adjacent cell.

8. The method as claimed in claim **6**, wherein a discharge start voltage of said discharge cell is lower than the addition of a wall voltage by said address discharge to said sustain voltage applied to the adjacent row electrode.

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